

AMENDMENTS TO THE CLAIMS

The following listing of claims will replace all prior versions and listings of claims in the application:

Listing of Claims:

1. (Previously presented): Self-igniting gasoline internal combustion engine comprising:
at least one cylinder,
a cylinder head closing the cylinder,
a piston slidingly arranged in the cylinder,
a combustion chamber defined in the cylinder between an upper face of the piston and a lower face of the cylinder head,
an injector for injecting gasoline into the combustion chamber,
intake valves and exhaust valves selectively closing the combustion chamber,
an injection pump intended to supply the injector with pressurized gasoline,
the ignition of the air-gasoline mixture being obtained spontaneously in at least a range of operation of the engine thanks to thermodynamic conditions in the combustion chamber,
wherein the pressure of the gasoline provided to the injector is above 250 bars.
2. (Previously presented): Engine according to claim 1, wherein the pressure of the gasoline provided to the injector reaches or is above 500 bars.

3. (Previously presented): Engine according to claim 1, wherein injection of the gasoline is made in a time interval situated at the end of the cycle of compression of the load by the cylinder.

4. (Previously presented): Engine according to claim 1, wherein injection of the gasoline is made in a time interval comprised between 60 degrees crankshaft before the high dead center of the combustion cycle and 20 degrees crankshaft after the high dead center.

5. (Previously presented): Engine according to claim 1, which comprises means for supercharging the intake air intended to be supplied to the combustion chamber.

6. (Previously presented): Engine according to claim 1, wherein, at least in a range of operation of the engine, the amount of gasoline delivered by the pump to the injector for a combustion cycle is fractionated in the form of a plurality of partial and distinct injections.

7. (Previously presented): Engine according to claim 6, which comprises at least one partial injection delivered during the air intake phase into the combustion chamber or during the first part of the compression, and at least one partial injection delivered around the high dead center, i.e., at a time interval comprised between 60 degrees crankshaft before the combustion high dead center and 20 degrees after this combustion high dead center.

8. (Previously presented): Engine according to claim 1, which comprises ignition means intended to produce ignition of the air-gasoline mixture in the combustion chamber during the very low load or very high load ranges of operation.

9. (Previously presented): Engine according to claim 1, which uses a ratio of residual gases above 20%.

10. (Previously presented): Engine according to claim 1, which uses a variable compression ratio.

11. (Previously presented): Engine according to claim 1, which is of the direct-jet or pseudo-direct-jet or deflected-jet type.

12. (Previously presented): Engine according to claim 9, which uses a ratio of residual gases above 50%.

13. (New): Engine according to claim 1, wherein a pressure of the gasoline provided to the injector is comprised between 300 and 2,000 bars.